IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A method for designing an optical pulse shaper including a first optical propagation line unit having a nonlinear medium and a dispersion medium concatenated, comprising:

specifying design specifications of the first optical propagation line unit; and

based on the design specification, calculating a quasi-periodic stationary pulse of which a waveform of an input optical pulse to the first optical propagation line unit is similar to a waveform of an output pulse from the first optical propagation line unit.

Claim 2 (Original): The method of claim 1, wherein a second or a second and later optical propagation line units are subsequently concatenated to the first optical propagation line unit.

Claim 3 (Original): The method of claim 2, further comprising:

specifying design specifications of the second or the second and later optical propagation line units.

Claim 4 (Original): The method of any one of claims 1 to 3, wherein the design specifications include at least a nonlinear coefficient, a dispersion value and a length in a light propagation direction of each of the nonlinear medium and the dispersion medium of each of the optical propagation line units and a power peak of the input optical pulse.

Claim 5 (Currently Amended): The method of claim 4, wherein provided that generalized dispersion values of the nonlinear medium and the dispersion medium included

in the first optical propagation line unit are s_1 and s_2, respectively, and normalized lengths of the nonlinear medium and the dispersion medium are K_1 and L_1, respectively, s_2 is a value of anomalous dispersion and satisfies a following equation and the values of K_1 and L_1 satisfy a following equation[[.]]:

$0 \leq |s_1| << 1 << s_2$

$L_1 << K_1$

in which $|s_1|$ is an absolute value of s_1.

Claim 6 (Currently Amended): The method of claim 5, wherein provided that generalized dispersion values of the nonlinear medium and the dispersion medium included in the nth optical propagation line unit (n is a positive integer equal to or more than 2) counting from the optical propagation line unit among the optical propagation line units are s_{1n} and s_{2n}, respectively, and normalized lengths of the nonlinear medium and the dispersion medium are K_n and L_n, respectively, s_{2n} is a value of anomalous dispersion and satisfies a following equation and the values of K_n and L_n satisfy following equations[[.]]:

$s_{1n} = s_1/\alpha^{n-1}$

$s_{2n} = s_2/\alpha^{n-1}$

$K_n = K_1/\alpha^{n-1}$

$L_n = L_1/\alpha^{n-1}$

α: a compression ratio.

Claim 7 (Currently Amended): The method of claim 5, wherein provided that generalized dispersion values of the nonlinear medium and the dispersion medium included in the nth optical propagation line unit (n is a positive integer equal to or more than 2) counting from the optical propagation line unit among the optical propagation line units are

s_{1n} and s_{2n}, respectively, and normalized lengths of the nonlinear medium and the dispersion medium are K_n and L_n , respectively, s_{2n} is a value of anomalous dispersion and satisfies a following equation and the values of K_n and L_n satisfy following equations[[.]]:

$s_{1n} := s_1/\alpha^{n-1}$

$s_{2n} := s_2$

$K_n := K_1/\alpha^{n-1}$

$L_n ==L_1\alpha^{2(n-1)}$

α: a compression ratio.

Claim 8 (Previously Presented): The method of claim 1, wherein the input optical pulse is an optical pulse having a waveform close to a waveform of the quasi-periodic stationary pulse.

Claim 9 (Currently Amended): The method of claim 1, wherein provided that the nonlinear coefficient and a loss coefficient of the nonlinear medium are ν and δ, respectively, the nonlinear medium is a highly nonlinear medium with the values of ν and δ satisfying a following equation[[.]]:

$z = - (1/2\delta) \ln(1-2\delta/a_0^2\nu)\ \zeta$

z: a total length in the light propagation direction of the nonlinear medium in the optical pulse shaper, expressed by a real distance

ζ: a total length in the light propagation direction of the nonlinear medium in the optical pulse shaper, expressed by a normalized distance of dimensionless amount

a_0: a power attenuation coefficient of an input end of an optical pulse of the nonlinear medium

ln: logarithm natural.

Claim 10 (Previously Presently): The method of claim 1, wherein the nonlinear medium is a highly nonlinear optical fiber and the dispersion medium is a single mode optical fiber.

Claim 11 (Previously Presented): An optical pulse shaper designed based on the method of claim 1.

Claim 12 (Original): The optical pulse shaper of claim 11, wherein a nonlinear phase shift amount of a pulse generated per step is O(1).

Claim 13 (Original): The optical pulse shaper of claim 11, wherein the length of the nonlinear medium is set in consideration of a propagation loss of the nonlinear medium and the dispersion medium and a connection loss including a connection loss of different media.

Claim 14 (Original): The optical pulse shaper of claim 11, wherein an optical amplifier is inserted at a given portion so as to compensate power loss due to a propagation loss of the nonlinear medium and the dispersion medium and a connection loss including a connection loss of different media.

Claim 15 (Original): The optical pulse shaper of claim 11, wherein a pulse light source, an optical amplifier and a band pass filter are sequentially concatenated to reduce a noise in input light.

Claim 16 (Original): The optical pulse shaper of claim 11, wherein two members each having a DFB laser diode, an optical amplifier and a band pass filter sequentially concatenated are used to generate beat light and the beat light is input the optical pulse shaper.

Claim 17 (Original): The optical pulse shaper of claim 11, wherein a polarization-maintaining fiber is used.

Claim 18 (Previously Presented): The optical pulse shaper of claim 11, wherein used as the nonlinear medium is a photonic crystal fiber.

Claim 19 (Previously Presented): The optical pulse shaper of claim 11, wherein used as the dispersion medium is a fiber Bragg grating.

Claim 20 (Previously Presented): The optical pulse shaper of claim 11, wherein used as the dispersion medium is a high-order mode fiber.

Claim 21 (Previously Presented): A pulse outputting device comprising the optical pulse shaper of claim 11.

Claim 22 (Previously Presented): A laser machining device comprising the optical pulse shaper of claim 11.

Claim 23 (Previously Presented): A measurement device comprising the optical pulse shaper of claim 11.

Claim 24 (Previously Presented): An optical sampling oscilloscope comprising the optical pulse shaper of claim 11.